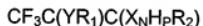


AMENDMENTS TO THE CLAIMS

The listing of the claims which follows will replace all prior versions, and listings, of claims in the application:

1. (previously presented): A dehydrohalogenation process for the preparation of fluoropropenes of the formula $CF_3CY=CX_NH_P$, wherein X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine; and N and P are independently integers equal to 0,1 or 2, provided that $(N+P)=2$; comprising reacting without a catalyst, a halopropane of the formula:



wherein R_1 , R_2 , X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, provided that at least one of R_1 , R_2 , X and Y is a halogen and there is at least one hydrogen and one halogen on adjacent carbon atoms; with a caustic solution of at least one alkali metal or alkaline earth metal hydroxide in a non-aqueous, non-alcohol solvent for said alkali metal or alkaline earth metal hydroxide that is essentially miscible with said halopropane, wherein the reaction is performed within a temperature range at which dehydrohalogenation will occur.

2. (original): The process of claim 1 wherein the reactant comprises 1-chloro-1,3,3,3-tetrafluoropropane.

3. (original): The process of claim 1 wherein the reactant comprises 1,1,1,3,3-pentafluoropropane.
4. (original): The process of claim 1 wherein the reactant comprises both 1-chloro-1,3,3,3-tetrafluoropropane and 1,1,1,3,3-pentafluoropropane.
5. (original): The process of claim 1 wherein said caustic solution comprises LiOH, NaOH, KOH, CaO, Ca(OH)₂, CaCO₃, lime stone or combinations thereof.
6. (previously presented): The process of claim 1, wherein said caustic solution solvent is selected from the group consisting of nitriles, ethers, esters, amides, ketones, sulfoxides, phosphates, and carboxylates, and combinations of two or more of these.
7. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises acetonitrile.
8. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises diethyl ether.
9. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises tetrahydrofuran.
10. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises perfluorotetrahydrofuran.

11. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises methyl acetate.

12. (previously presented): The process of claim 1, wherein said caustic solution solvent comprises ethyl acetate.

13. (currently amended): The process of claim 41 wherein said dehydrohalogenation dehydrochlorination of said 1-chloro-1,3,3,3-tetrafluoropropane and said dehydrofluorination of 1,1,1,3,3-pentafluoropropane are conducted simultaneously in the same reactor.

14. (original): The process of claim 1 wherein the reaction is conducted at a temperature of from about 20°C to about 150°C.

15. (original): The process of claim 1 wherein the reaction is conducted at atmospheric pressure or under vacuum.

16. (original): The process or claim 1 wherein the reaction is conducted at superatmospheric pressure.

17. (original): The process of claim 1 wherein the caustic strength of said caustic solution is from about 2 wt % to about 100 wt %.

18. (original): The process of claim 1, wherein the molar ratio of caustic to halopropane is about 1:1 to about 20:1.

19. (currently amended): The process of claim 1 wherein the reactant comprises 1-chloro-1,3,3,3-tetrafluoropropane and/or 1,1,1,3,3-pentafluoropropane, and wherein said reactant is are previously prepared by fluorinating 1,1,1,3,3-pentachloropropane with hydrogen fluoride in a vapor phase in the presence of a fluorination catalyst.

20. (original): The process of claim 19 wherein said fluorination catalyst is selected from the group consisting of transition metal halides, Group IVb metal halides, Group Vb metal halides and combinations thereof on activated carbon or fluorinated alumina.

21. (original): The process of claim 19 wherein said fluorination catalyst is selected from the group consisting of $SbCl_5$, $SbCl_3$, SbF_5 , $TaCl_5$, $SnCl_4$, $NbCl_5$, $TiCl_4$, $MoCl_5$, Cr_2O_3 , Cr_2O_3/Al_2O_3 , Cr_2O_3/AlF_3 , Cr_2O_3 /carbon, $CoCl_2/Cr_2O_3/Al_2O_3$, $NiCl_2/Cr_2O_3/Al_2O_3$, $CoCl_2/AlF_3$, $NiCl_2/AlF_3$ and combinations thereof.

22. (original): The process of claim 19 wherein said fluorination catalyst is selected from the group consisting of Cr_2O_3 , Cr_2O_3 /carbon, Cr_2O_3/AlF_3 , $CoCl_2/AlF_3$, $NiCl_2/AlF_3$ and combinations thereof.

23. (original): The process of claim 19 wherein said fluorination catalyst comprises $SbCl_3$ or $SbCl_5$ supported on activated carbon.

24. (currently amended): The process of claim 1 wherein the reactant comprises 1-chloro-1,3,3,3-tetrafluoropropane and/or 1,1,1,3,3-pentafluoropropane, and wherein said reactant is are previously prepared by

fluorinating 1,1,1,3,3-pentachloropropane with hydrogen fluoride in a liquid phase in the presence of a fluorination catalyst.

25. (original): The process of claim 24 wherein said fluorination catalyst is selected from the group consisting of transition metal halides, Group IVb metal halides, Group Vb metal halides and combinations thereof.

26. (original): The process of claim 24 wherein said fluorination catalyst is selected from the group consisting of $SbCl_5$, $SbCl_3$, SbF_5 , $TaCl_5$, $SnCl_4$, $NbCl_5$, $TiCl_4$, $MoCl_5$, and combinations thereof.

27. (original): The process of claim 24 wherein said fluorination catalyst is selected from the group consisting of $SbCl_5$, $SbCl_3$ and combinations thereof.

28. (original): The process of claim 19 wherein the fluorination is conducted at a temperature of from about 100°C to about 350°C.

29. (original): The process of claim 19 wherein the fluorination is conducted at atmospheric pressure or under vacuum.

30. (original): The process of claim 29, wherein the fluorination is conducted under vacuum pressure between about 5 and about 760 torr.

31. (original): The process of claim 19, wherein said fluorination is conducted at superatmospheric pressure.

32. (original): The process of claim 19 wherein the mole ratio of hydrogen fluoride to 1,1,1,3,3-pentachloropropane is from about 2:1 to about 100:1.

33. (original): The process of claim 19 further comprising feeding chlorine to the fluorination reaction to keep the fluorination catalyst active.

34. (original): The process of claim 24 wherein the fluorinating is conducted at a temperature of from about 60°C to about 180°C.

35. (original): The process of claim 24 wherein the fluorinating is conducted at a pressure of from about 50 psig and 400 psig.

36. (original): The process of claim 24 wherein the mole ratio of hydrogen fluoride to 1,1,1,3,3-pentachloropropane is from about 2:1 to about 100:1.

37. (original): The process of claim 24 further comprising feeding chlorine to the fluorination reaction to keep the fluorination catalyst active.

38. (currently amended): A dehydrohalogenation process for the preparation of fluoropropenes of the formula $CF_3CY=CX_NH_P$, wherein X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, and N and P are independently integers equal to 0, 1 or 2, provided that $(N+P)=2$; comprising heating to a temperature at which dehydrohalogenation by thermal decomposition occurs, a halopropane of the formula:



wherein R₁, R₂, X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, provided that at least one of R₁, R₂, X and Y is a halogen and there is at least one hydrogen and one halogen on adjacent carbon atoms;

wherein said decomposing is conducted without a catalyst.

39. (previously presented): A process for the manufacture of 1,3,3,3-tetrafluoropropene comprising thermally decomposing a reactant comprising at least one of 1-chloro-1,3,3,3-tetrafluoropropane and 1,1,3,3,3-pentafluoropropane, under conditions sufficient to dehydrochlorinate 1-chloro-1,3,3,3-tetrafluoropropene and/or to dehydrofluorinate 1,1,1,3,3-pentafluoropropane, to form a reaction product which comprises 1,3,3,3-tetrafluoropropene;

wherein said decomposing is conducted without a catalyst.

40. (canceled)

41. (previously presented): A process for the manufacture of 1,3,3,3-tetrafluoropropene comprising thermally decomposing a reactant comprising at least one of 1-chloro-1,3,3,3-tetrafluoropropane and 1,1,3,3,3-pentafluoropropane, under conditions sufficient to dehydrochlorinate 1-chloro-1,3,3,3-tetrafluoropropene and/or to dehydrofluorinate 1,1,1,3,3-pentafluoropropane, to form a reaction product which comprises 1,3,3,3-tetrafluoropropene;

wherein said decomposing is conducted in the presence of one or more transition metal halide catalysts, wherein said transition metal is selected from the group consisting of iron, nickel, cobalt, and combinations thereof.

42. (original): The process of claim 41, the catalyst is selected from, a group consisting of iron halides, nickel halides, cobalt halides and combinations thereof.

43. (previously presented): The process of claim 39 wherein 1-chloro-1,3,3,3-tetrafluoropropane is dehydrochlorinated to form a reaction product which comprises 1,3,3,3-tetrafluoropropene.

44. (previously presented): The process of claim 39 wherein 1,1,3,3,3-pentafluoropropane is dehydrofluorinated to form a reaction product which comprises 1,3,3,3-tetrafluoropropene.

45. (previously presented): The process of claim 39 wherein said dehydrochlorination of 1-chloro-1,3,3,3-tetrafluoropropane and said dehydrofluorination of 1,1,1,3,3-pentafluoropropane are conducted simultaneously in the same reactor.

46. (original): The process of claim 39 which is conducted at a temperature of from about 30°C to about 400°C.

47. (original): The process of claim 39 which is conducted at a temperature of from about 50°C to about 350°C.

48. (original): The process of claim 39 which is conducted at a temperature of from about 75°C to about 300°C.

49. (original): The process of claim 39 which is conducted at atmospheric pressure or under vacuum.

50. (original): The process of claim 39 which is conducted a superatmospheric pressure.

51. (previously presented): A dehydrohalogenation process for the preparation of fluoropropenes of the formula $CF_3CY=CX_NH_{P2}$, wherein X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, and N and P are independently integers equal to 0, 1 or 2, provided that $(N+P)=2$; comprising heating to a temperature at which dehydrohalogenation by thermal decomposition occurs, a halopropane of the formula:



wherein R_1 , R_2 , X and Y are independently hydrogen or a halogen selected from the group consisting of fluorine, chlorine, bromine and iodine, provided that least one of R_1 , R_2 , X and Y is a halogen and there is at least one hydrogen and one halogen on adjacent carbon atoms;

wherein said decomposing is conducted in the presence of a transition metal halide catalyst wherein said transition metal is selected from the group consisting of iron, nickel, cobalt, and combinations thereof.

52. (previously presented): The process of claim 51 wherein the catalyst is supported or bulk transition metal halides.

53. (original): The process of claim 52 wherein said catalyst comprises supported or bulk FeCl_2 , FeCl_3 , NiCl_2 or CoCl_2 .

54. (original): The process of claim 39 wherein the 1-chloro-1,3,3,3-tetrafluoropropane and/or 1,1,1,3,3-pentafluoropropane are previously prepared by fluorinating 1,1,1,3,3-pentachloropropane with hydrogen fluoride in the vapor phase in the presence of a fluorination catalyst.

55. (original): The process of claim 54 wherein said fluorination catalyst is selected from the group consisting of transition metal halides, Group IVb metal halides, Group Vb metal halides and combinations thereof on activated carbon or fluorinated alumina.

56. (original): The process of claim 54 wherein said fluorination catalyst is selected from the group consisting of SbCl_5 , SbCl_3 , SbF_5 , TaCl_5 , SnCl_4 , NbCl_5 , TiCl_4 , MoCl_5 , Cr_2O_3 , $\text{Cr}_2\text{O}_3/\text{Al}_2\text{O}_3$, $\text{Cr}_2\text{O}_3/\text{AlF}_3$, $\text{Cr}_2\text{O}_3/\text{carbon}$, $\text{CoCl}_2/\text{Cr}_2\text{O}_3/\text{Al}_2\text{O}_3$, $\text{NiCl}_2/\text{Cr}_2\text{O}_3/\text{Al}_2\text{O}_3$, $\text{CoCl}_2/\text{AlF}_3$, $\text{NiCl}_2/\text{AlF}_3$ and combinations thereof.

57. (original): The process of claim 54 wherein said fluorination catalyst is selected from the group consisting of Cr_2O_3 , $\text{Cr}_2\text{O}_3/\text{carbon}$, $\text{Cr}_2\text{O}_3/\text{AlF}_3$, $\text{CoCl}_2/\text{AlF}_3$, $\text{NiCl}_2/\text{AlF}_3$ and combinations thereof.

58. (original): The process of claim 54 wherein said fluorination catalyst comprises SbCl₃ or SbCl₅ supported on activated carbon.

59. (original): The process of claim 54 wherein the fluorinating is conducted at a temperature of from about 100°C to about 350°C.

60. (original): The process of claim 54 wherein the fluorinating is conducted at atmospheric pressure or under vacuum.

61. (original): The process of claim 54 wherein the fluorinating is conducted at superatmospheric pressure.

62. (original): The process of claim 54 wherein the mole ratio of hydrogen fluoride to 1,1,1,3,3-pentachloropropane is from about 2:1 to about 100:1.

63. (original): The process of claim 54 further comprising feeding chlorine to the fluorinating reaction to keep the fluorination catalyst active.

64. (original): The process of claim 39 wherein the 1-chloro-1,3,3,3-tetrafluoropropane and/or 1,1,1,3,3-pentafluoropropane are previously prepared by fluorinating 1,1,1,3,3-pentachloropropane with hydrogen fluoride in a liquid phase in the presence of a fluorination catalyst.

65. (original): The process of claim 64 wherein said fluorination catalyst is selected from the group consisting of transition metal halides, Group IVb metal halides, Group Vb metal halides and combinations thereof.

66. (original): The process of claim 65 wherein said fluorination catalyst is selected from the group consisting of SbCl₅, SbCl₃, SbF₅, TaCl₅, SnCl₄, NbCl₅, TiCl₄, MoCl₅, and combinations thereof.

67. (original): The process of claim 66 wherein said fluorination catalyst is selected from the group consisting of SbCl₅, SbCl₃ and combinations thereof.

68. (original): The process of claim 64 wherein the fluorinating is conducted at a temperature of from about 60°C to about 180°C.

69. (original): The process of claim 64 wherein the fluorinating is conducted at a pressure of from about 50 psig and 400 psig.

70. (original): The process of claim 64 wherein the mole ratio of hydrogen fluoride to 1,1,1,3,3-pentachloropropane is from about 2:1 to about 100:1.

71. (original): The process of claim 64 further comprising feeding chlorine to the fluorinating reaction to keep the fluorination catalyst active.

72. (original): The process of claim 1, wherein said caustic solution further comprises a 1 to 5 carbon atom alcohol in an amount that is at least partially miscible with said caustic solution solvent.

73. (original): The process of claim 1, wherein said caustic solution further comprises water in an amount that is at least partially miscible with said caustic solution solvent.

74. (original): The process of claim 1, conducted in a continuous manner.

75. (previously presented): The process of claim 38, wherein said process is conducted in a continuous manner.

76. (new): A process for the manufacture of 1,3,3,3-tetrafluoropropene comprising thermally decomposing substantially simultaneously a reactant comprising 1-chloro-1,3,3,3-tetrafluoropropane and 1,1,3,3,3-pentafluoropropane under conditions sufficient to dehydrochlorinate at least a portion of said 1-chloro-1,3,3,3-tetrafluoropropane and to dehydrofluorinate at least a portion of 1,1,1,3,3-pentafluoropropane, to form a reaction product comprising 1,3,3,3-tetrafluoropropene.

77. (new): A process for the manufacture of 1,3,3,3-tetrafluoropropene comprising thermally decomposing in the presence of a catalyst a reactant comprising at least one of 1-chloro-1,3,3,3-tetrafluoropropane and 1,1,3,3,3-pentafluoropropane under conditions sufficient to dehydrohalogenate at least a portion of said reactant to form a reaction product comprising 1,3,3,3-tetrafluoropropene.